

Applicant Name Beaverhead County
Project Name Blacktail Deer Creek Flood Mitigation Project

Project Abstract

This construction project is designed to replace two limited-capacity culvert crossings with open span bridges and to reconfigure the stream channel to minimize the impact of a 100-year flood event. The county has studied six alternatives and the resulting delineation of the 100-year floodplain for each.

The culverts have caused repeated flooding of a 13-block area along the urban reach of Blacktail Deer Creek. The flooding is caused by the limited capacity of the culvert crossings which have only 62 cubic feet service (cfs) of capacity, while peak discharges for the 10, 50, 100, and 500-year flood flows are calculated at 352, 550, 740, and 940 cfs, respectively. The delineated floodplain contains over 50 residential and commercial structures that are threatened each time the creek leaves its banks, including a seed potato storage facility, a bulk fuel dealer, an apartment complex, motel, church, visitor center, mobile home park, and single-family residences.

The county commissioned a detailed step-backwater analysis for Blacktail Deer Creek using the U.S. Army Corps of Engineers (USACOE) Hydraulic Engineering Center-River Analysis System (HEC-RAS) computer program. The analysis modeled pre- and post-mitigation floodplain development alternatives that will minimize downstream flooding associated with the bridge replacement projects proposed as part of a Federal Emergency Management Agency (FEMA) grant application. The affected stream reach begins at Reeder Street and extends approximately 0.5 miles downstream to the elevated irrigation culvert crossing approximately 250 feet downstream of the Bannack Street Bridge. The project will increase the channel's flood flow capacity, re-establish the stream gradient and sediment-carrying function, reduce the delineated floodplain, and eliminate the debris and ice-lodging problems associated with the culverts. The reconfigured stream channel will reduce potential flooding of residential and commercial development built subsequent to installation of the culverts in the 1950s.